MULTIFUNCTION BROOM

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SUPERVISOR DECLARATION

I hereby declare that I had read this thesis and in my opinion this thesis is sufficient in terms of scope and quality for the purpose of the granting of Diploma of Mechanical Engineering.

Signature : ……

Name of Supervisor : EN. IDRIS BIN MAT SAHAT

Date : …….

STUDENT DECLARATION

I declare that this thesis entitled "**Multifunction broom**" is the result of my own research except as cited in references. The thesis has not been accepted for any diploma and is not concurrently submitted in candidature of any other diploma.

Signature : _____

Name of candidate : KHAIRIL ANWAR BIN ABU BAKAR

Date : _____

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ABSTRACT

There are many brooms in the market. Broom or sweeper is more synonymous with collecting and cleaning duties. Today, broom was readily adopted into the sweeper with a variety of shapes and patterns. It is the origin of the stick has been modernized with the use of plastic as the main ingredient. However, there is the design and creation of a multifunction wiper market. By creating a multifunction broom is expected not only to attract the attention of consumers because of patterns and designs are more effective cured but can help users perform work such as sweeping, cleaning floors and mirrors using only one tool only, and indirect cost savings in consumer spending. The results indicate the project objective to produce a variety of functions and can be used for a variety of situations is achieved.

ABSTRAK

Terdapat banyak penyapu dipasaran hari ini. Penyapu yang lebih sinonim dengan tugasnya mengumpul dan membersihkan kotoran. Hari ini bahan ini telah di adaptasikan menjadi penyapu yang mempunyai pelbagai corak dan bentuk. Ia yang asalnya diperbuat daripada lidi telah pun dipermodenkan dengan mengunakan plastik sebagai bahan utama. Namun, belum terdapat rekaan dan ciptaan penyapu yang mempunyai pelbagai fungsi dipasaran. Dengan terciptanya penyapu pelbagai fungsi ini, diharapkan bukan sahaja dapat menarik perhatian pengguna disebabkan corak dan rekaannya yang lebih efectif malah dapat membantu pengguna melakukan kerja-kerja seperti menyapu, mencuci lantai dan cermin hanya dengan mengunakan satu alatan sahaja dan secara tidak langsung menjimatkan kos perbelanjaan pengguna. Keputusan kajian menunjukan objectif asal projek untuk menghasilkan penyapu pelbagai fungsi dan boleh digunakan untuk pelbagai situasi ini tercapai.

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INTRODUCTION

1.1 INTRODUCTION

For this chapter, it is discuss about the problem statement, objective of the project, scope of the project, and lastly project background.

1.2 PROJECT BACKGROUND

Cleanliness is one of a good value which people had looking at since human come to this world. This value had continued from a generation to another generation. People always want to see a clean place. In order to reach it, manufacturer had come out with ideas to produce some good stuff which may help people to keep the area clean like broom, mop and others.

Today, manufacturer had come with innovative ideas to achieve high productive for the competition with other manufacturers. As example, a broom today had come out with so many designs depending on their function and working place.

This also special broom which use to clean rubbish. Innovative productivity means improving efficiency in order to do the job well. So the clearance is more easily and suitable at any area.

1.3 PROBLEM STATEMENT

At the market, most of brooms is produce for one function only for example to clean the rubbish and user must buy another equipment for another work for example to clean floor and window. User previously had to clean the mop using hand. The problem now is how to make a multifunction broom. With multifunction broom, user can only use one product to perform multiple tasks.

1.4 OBJECTIVE

The objective of this project is:

i. To design an efficient multi function broom.
ii. To fabricate the structure this can be used anywhere.

1.5 SCOPE

The project scope consists of three scope which are:

i. This study is focused on making a multifunction broom.
ii. It has three function in one broom.
iii. May sweep the trash, clean floors, wash and dry the mirror.

1.6 FLOW CHART

A flow chart, or flow diagram, is a graphical representation of a process or system that details the sequencing of steps required to create output.

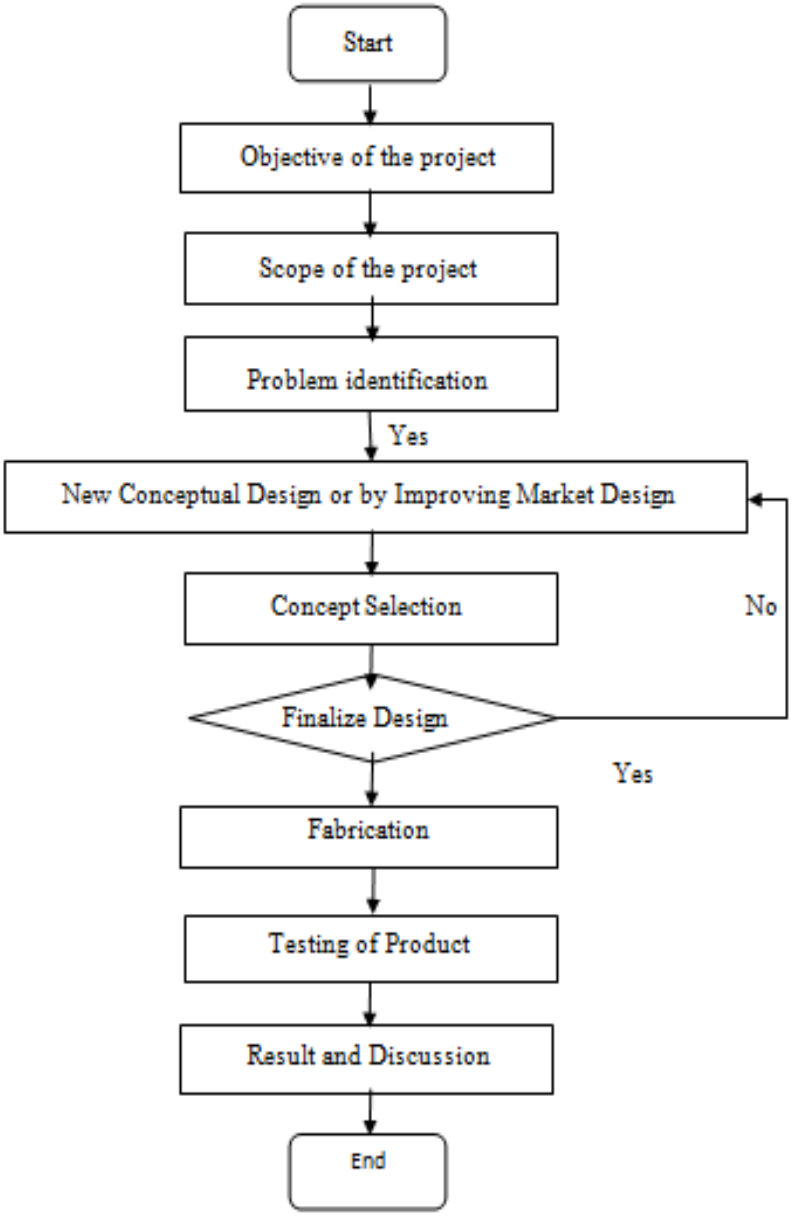

Figure 1.1 Flow Chart

1.7 GANTT CHART

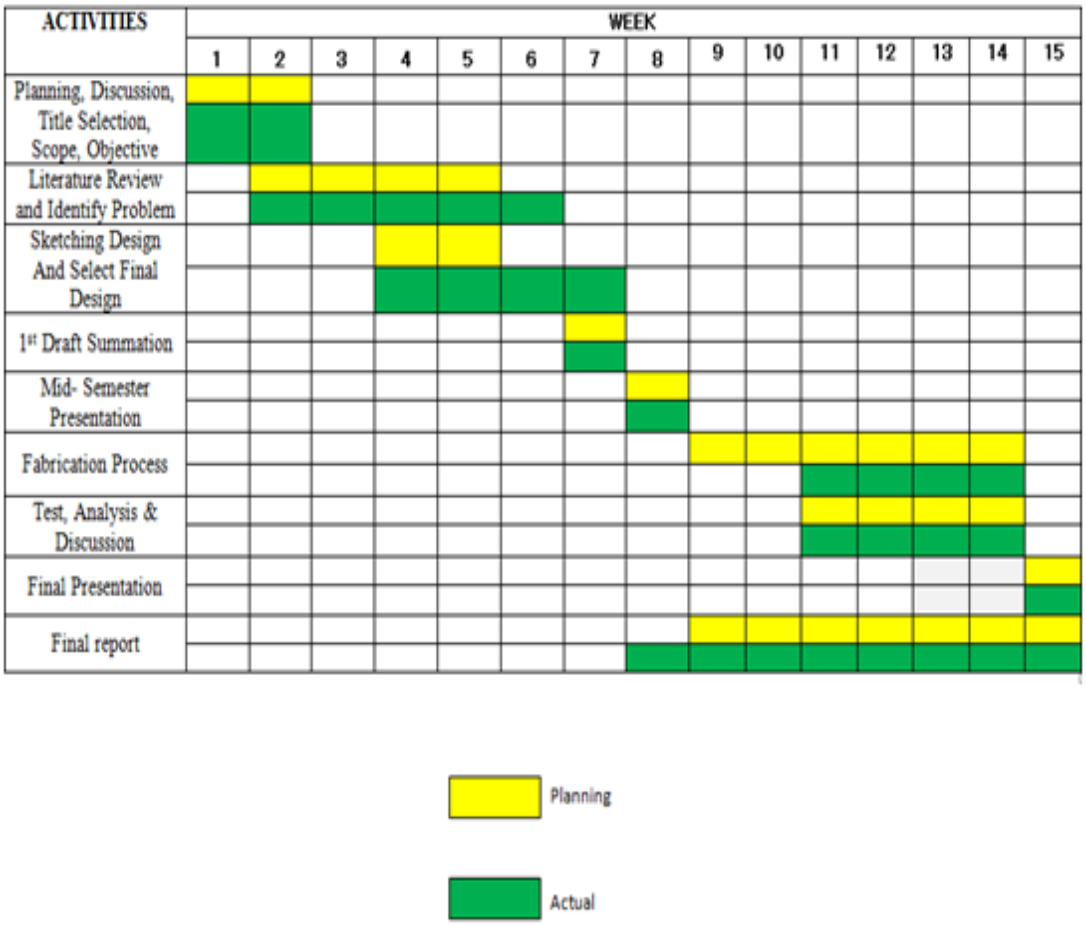

Figure 1.2 Gantt Chart

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter is the literature review of the project. In this chapter, there is a history and type of broom. Besides that, it consists of designs which are available at the market.

2.2 HISTORY AND SHARING

A broom is a cleaning tool consisting of stiff fibers attached to, and roughly parallel to, a cylindrical handle, the broomstick. It is commonly used in one function only. If it have over one function such as two or three, it call multifunction of broom.

Commonly broom used in combination with a dustpan. The dustpan may appear to be a type of flat scoop. It is often hand held for home use, but industrial and commercial enterprises often use a hinged variety on the end of a stick to prevent the user from constantly stooping to use it.

To this project just fabricate multifunction broom is going to be fabricated without the dustpan.

2.3 TYPES OF BROOMS AND BRUSHES

A broom like a brush is a collection of stiff fibers or bristles fastened into a handle so that they are roughly parallel to each other. Often, but not always, a broom has a long handle (whisk brooms, for example, are an exception). There is some crossover in terminology – identical-looking items may be called a brush in one locale and a broom in another. But it seems that all brooms are used to sweep things into dustpans or piles or off of surfaces, whereas brushes may have other functions. In addition, note that several items called brooms do not meet this definition.

2.3.1 Snow brooms

Made to sweep, push, or drag snow off of vehicles, snow brooms usually have telescoping handles, but not all have brushes: some are made of a synthetic material that effectively scrapes as well as brushes snow off, while being gentle on the car's finish.

Figure 2.1 Snow broom

2.3.2 Angled broom

Designed to fit in most corners and nooks, the angled broom, with its synthetic bristles, is frequently chosen for the bulk of indoor work not covered by a vacuum cleaner.

Figure 2.2 Angle broom

2.3.3 Whisk broom

Made by wrapping the end of the bristles or adding a small handle, a whisk broom is usually a small, somewhat triangular corn broom with two rows of stitching across it, made to whisk dirt off of upholstery, carpets, and floors. Very small models made for transporting (in a car for example), may have a case that doubles as a dustpan.

Figure 2.3 Whisk broom

2.3.4 Push Brooms

Most indoor brooms are operated by sweeping across or towards oneself, and are made accordingly, but outdoor brooms are often called push broom because when working across rough surfaces or with large amounts of dirt or debris, a pushing motion is more successful in collecting it.

Figure 2.4: Push broom

2.3.5 Corn broom

A simple corn broom cut straight across the bottom can handle rough surfaces, but is used by many all over the house.

Figure 2.5 Corm broom

2.4 Basic Parts

2.4.1 Broom handle: Made from stainless and the holder made from plastic.

2.4.2 Brush: The broom material is plastic.

2.4.3 Mop: Made from plastic and sponge

2.4.4 Mirror cleaner: Made from plastic and sponge

However, the scope for this project is to make the prototype only. So the material that will be used is different from the original plan. The different will show at a table below.

Part	Original Part	Prototype Part
Broom Handle	Plastic	Stainless
Holder	Plastic	Stainless

Figure 2.1 Multifunction broom parts